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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,250	07/10/2001	Gerald T. Mearini	0937.0016	9551

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EXAMINER

FULLER, ERIC B

ART UNIT PAPER NUMBER

1762

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/902,250

Applicant(s)

MEARINI ET AL.

Examiner

Eric B. Fuller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2005.  
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 20 and 23-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1 is/are allowed.  
6) ☒ Claim(s) 2-4, 6, 20 and 23-27 is/are rejected.  
7) ☒ Claim(s) 5 and 7-10 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

Applicant alleges that Debley fails to teach evaporation and that the term "evaporator" as used in the claims is a general term that is used to refer to an electron beam gun and thus a "target", as taught by Debley, does not read on an "evaporator". This is not found convincing. Debley teaches a target that subjected to an ion gun releases some metal vapor. This reads on being an "evaporator". The term "evaporator" is a broad term that is open to multiple interpretations and it is unclear if the applicant is referring to a target that causes a vapor or the gun that provides the energy for the evaporation process, particularly in view of the evaporator being located in a source deposition location. Accordingly, the examiner has interpreted the claims to include either interpretation. If the term "evaporator" is amended such that it reads on the energy source for evaporation, this would overcome the rejections based on Debley. However, as the claims are currently drafted, the rejections of the previous Office Action are maintained.

Applicant argues that the "rearrangement of parts" is insufficient as a rejection as it would not be operable. This is not found convincing. Although the targets (fig 4, ref. 51' and 51'') are moved from the standby location to the source deposition location by means of rotation, it still reads on being longitudinally spaced. To provide the apparatus such that the locations are laterally spaced would have been obvious with the expectation of achieving similar results. Although the location of the ion beam may

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have to be altered such that the angle of incidence is maintained, this is a minor adjustment that would have been within the ordinary skill of one practicing in the art, through routine experimentation. Although the applicant argues the case law required, this is inconsequential as the examiner maintains the position that the difference between longitudinally spaced and laterally spaced would not be a patentable difference. Therefore, the rejections of the previous Office Action have been maintained.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 6, 23, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debley et al. (US 5,529,671).

Debley teaches providing multiple substrates (column 8, lines 1-2; figure 4, refs. 63 and 64), a fixed ion source (column 7, lines 60-65; figure 4, ref. 19), a selectively movable target (evaporator) that is positioned at a standby position and source deposition location (figure 4, ref. 51), and material is deposited on the substrates. The shutters are taught (figure 4, line 20). Multiple targets that are moved into the source deposition location are taught (column 8, lines 9-29; figure 4, refs. 51' and 51''). The reference teaches the standby location being longitudinally spaced from the source

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deposition location. Thus fails to teach it being laterally spaced. However, arrangement of parts such that the location is laterally spaced as opposed to longitudinally spaced would have been obvious with a reasonable expectation of success, as the mode of operation is not changed.

Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debley et al. (US 5,529,671), as applied to claim 3 above, and further in view of Kelley et al. (US 4,101,925).

Debley teaches the limitations of claim 3, as shown above, but fails to explicitly teach rotating the substrate. However, Kelley teaches that the speed at which the substrate is rotated is significant in achieving thin uniform layers (column 3, lines 58-65). Speeds within the applicant's claims are taught. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to rotate the substrates of Debley by the speeds taught by Kelley. By doing so, one would reap the benefits of achieving uniform films.

#### ***Allowable Subject Matter***

Claim 1 is allowed.

Claims 5 and 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach, or make obvious, the limitation of ceasing deposition of the layer prior to achieving target thickness, by shuttering the substrates, then independently unshuttering the substrates to resume deposition in order to achieve target thickness, in combination with the limitations from which they depend.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (571) 272-1420. The examiner can normally be reached on Mondays through Thursdays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks, can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EBF



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